Attorney Docket No.: N1085-00184 [TSMC2002-1327]

ABSTRACT

A Cu damascene structure is formed where Cu diffusion barrier is formed by treating the top surface of the surrounding low-k interlayer dielectric with nitrogen or carbon containing medium to form a silicon nitride or silicon carbide diffusion barrier rather than capping the top surface of the Cu with metal diffusion barrier as is conventionally done.

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